**PMS16**

### ADALIMUMAB, ETANERCEPT AND INFLIXIMAB FOR THE TREATMENT OF ANKYLOSING SPONDYLITIS-BUDGET IMPACT ANALYSIS ON POLISH NATIONAL HEALTH FUND

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**OBJECTIVES:** To evaluate impact of TNF-alfa inhibitors reimbursement (adalimumab, etanercept and infliximab) in the treatment of ankylosing spondylitis (AS) on Polish National Heath Fund's budget. **METHODS:** Budget impact from the perspective of public payer (National Heath Fund) in the 3 years time horizon was constructed. The number of patients eligible for treatment was estimated based on epidemiological data on AS prevalence from other European countries and statement of polish experts on minimal availability of biological treatment in Poland (0.4% of AS patients). Costs analyzed: acquisition costs of drugs, drug administration and treatment monitoring costs, adverse events treatment costs including tuberculosis monitoring and treatment costs, and AS hospitalization costs. Health outcomes included quality-adjusted life-year (QALY) and were estimated based on date from systematic review and economic analysis. Multiple sensitivity and scenario analyses were performed. Values are presented in PLN (exchange rate: 1 Euro = 3.40 PLN). **RESULTS:** In base scenario 184 AS patients were eligible for TNF-alfa inhibitors treatment annually. Assuming equal market share between adalimumab, etanercept and infliximab total one year treatment cost after market share stabilization were calculated for 10.63 mln PLN and comprised 3.38 and 3.87 mln PLN for adalimumab, etanercept and infliximab-based treatments, respectively. Total 3-years treatment costs assuming one year time to cover target population and 2-years time to reach market share stabilization was 27.72mln PLN. Incremental annual cost while comparing base scenario with worse scenario (all patients treated only with standard care and no TNF-alfa inhibitors) ranged from 5.86 to 10.43 mln PLN. Corresponding health benefit represented annual increase in QALY of 90 to 118 years. **CONCLUSIONS:** The impact of TNF-alfa inhibitors on Polish National Heath Fund's budget for limited to less than 200 patients population is marginal.

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### THE ECONOMIC IMPLICATIONS OF ACHIEVING TREATMENT RESPONSE IN PATIENTS WITH RHEUMATOID ARTHRITIS

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**OBJECTIVES:** Recent evidence has demonstrated a link between disease severity in rheumatoid arthritis and overall non-drug costs to the health care payer. This analysis aims to estimate the likely lifetime cost savings associated with achieving better clinical response in patients treated with etanercept, compared against rituximab after the failure of two previous DMARD therapies. **METHODS:** An existing economic model was repopulated using data linking resource use with disease severity, as measured by the Health Assessment Questionnaire (HAQ). The model uses Markov techniques to predict the lifetime health outcomes associated with different treatments for patients with RA in the UK. For each treatment in the model, the initial (first six months), medium-term (six to thirty-six months) and long-term (after thirty-six months) effects on the Health Assessment Questionnaire (HAQ) score were calculated. HAQ scores at each time period determined each patient's utility (QALYs), resource use and mortality. Effectiveness data were derived from the results from the TEMPO trial and published literature. Utility scores were converted from HAQ data using the EQ-5D. Unit cost data were drawn from established national databases, and were multiplied by resource use to predict the total cost for each cohort. **RESULTS:** When the impact of HAQ on resource was not included in the model, the incremental cost of the etanercept arm was estimated to be £4648 over the patient's lifetime. When resource use was linked with response to treatment, the incremental cost fell to £3304 (a reduction of 29%). Because the incremental effectiveness of etanercept would remain unchanged, the incremental cost-effectiveness ratio would also be reduced by 29%. **CONCLUSIONS:** By incorporating a link between HAQ and resource use into an existing economic model, it has been established that a substantial proportion of a treatment's incremental cost may be offset by reduced use of resources in other areas.

**PMS18**

### COSTS OF TREATMENT OF RHEUMATOID ARTHRITIS WITH BIOLOGICAL DRUGS

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**OBJECTIVES:** Biological drugs, which are used for the treatment of severe rheumatoid arthritis (RA), have high unit costs. This has caused attention to the choice between the available biological drugs at Danish hospitals. The official list unit costs can be misleading if clinically indicated dose escalation or treatment breaks affect the total consumption of the drug. The purpose of this study was to compare the actual costs of treatment of RA with the three most commonly used biological drugs (infliximab, etanercept and adalimumab) at Danish hospitals. **METHODS:** The study is a cost-minimization analysis designed as a retrospective cohort study using data from medical records (n = 198). Data was collected at three Danish hospitals. Consumption of biological drugs was measured during a 12 months period. Regression analysis was used to analyze the influence from patient characteristics on the dosage of infliximab. Breaks in the treatment with etanercept and adalimumab were measured from pharmacy records at one hospital. **RESULTS:** The average annual costs of infliximab vary due to dose escalation from €10,546 at one hospital to €16,109 at another hospital. Regression analysis show that dose escalation of infliximab is positively associated with pain index (DAS28) and duration of therapy. The average annual costs of etanercept and adalimumab were €13,321 (both drugs) after adjustment for treatment breaks, which accounted for 20% of the time at one hospital. **CONCLUSIONS:** Real-life medicine expenses for treatment of RA with infliximab, etanercept and adalimumab tend to be equal due to dose escalation of infliximab and treatment breaks with etanercept and adalimumab. Consequently, the choice of drug can be based on considerations of efficacy, safety, patient needs and the feasibility of the treatment.

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### COST-EFFECTIVENESS OF USING ETANERCEPT AS FIRST LINE IN SEVERE AND HIGHLY ACTIVE RHEUMATOID ARTHRITIS (RA)

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**OBJECTIVES:** To compare the cost-effectiveness ratios of etanercept in first line to etanercept in second line, together with